

FIG. 1

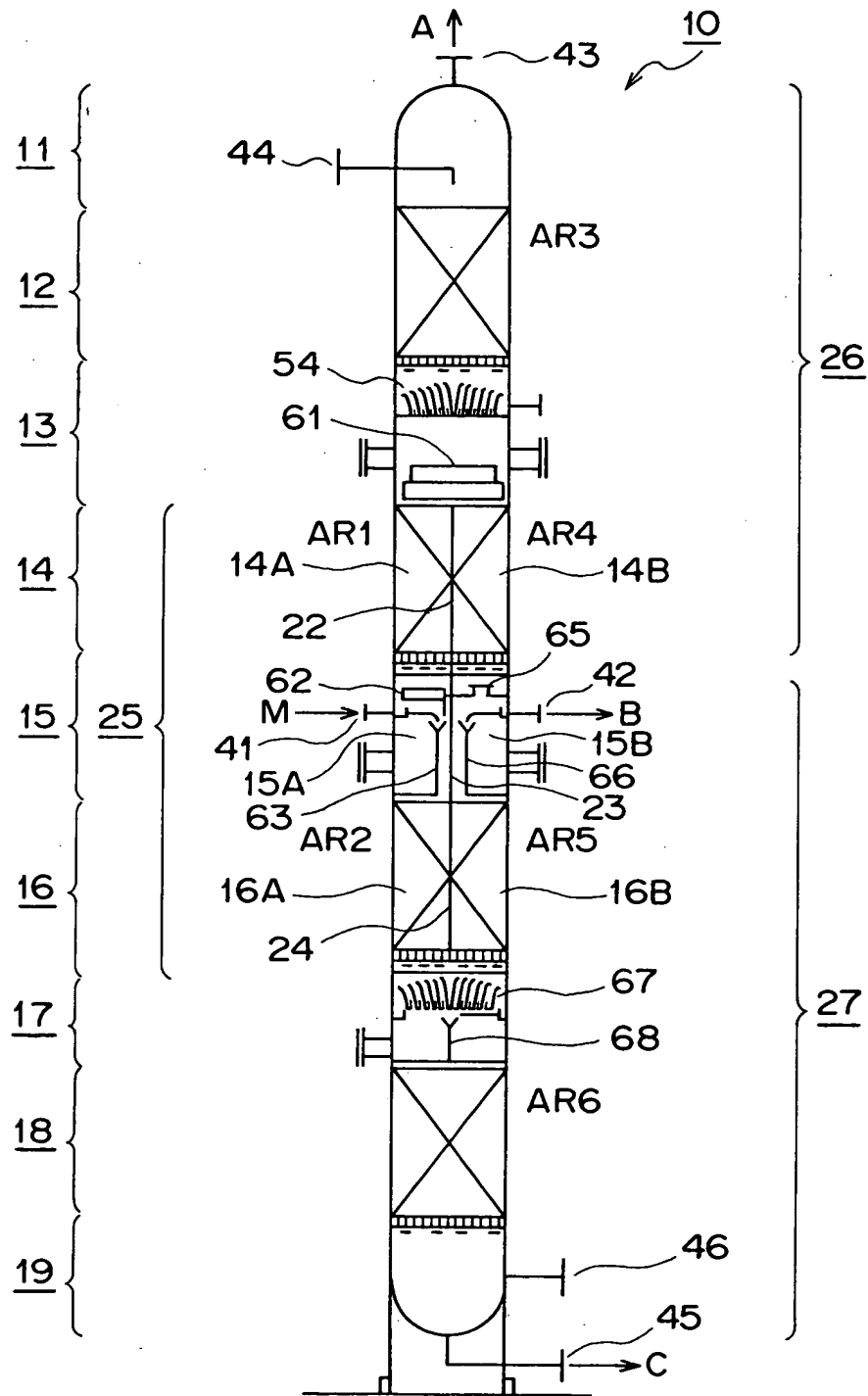


FIG. 3

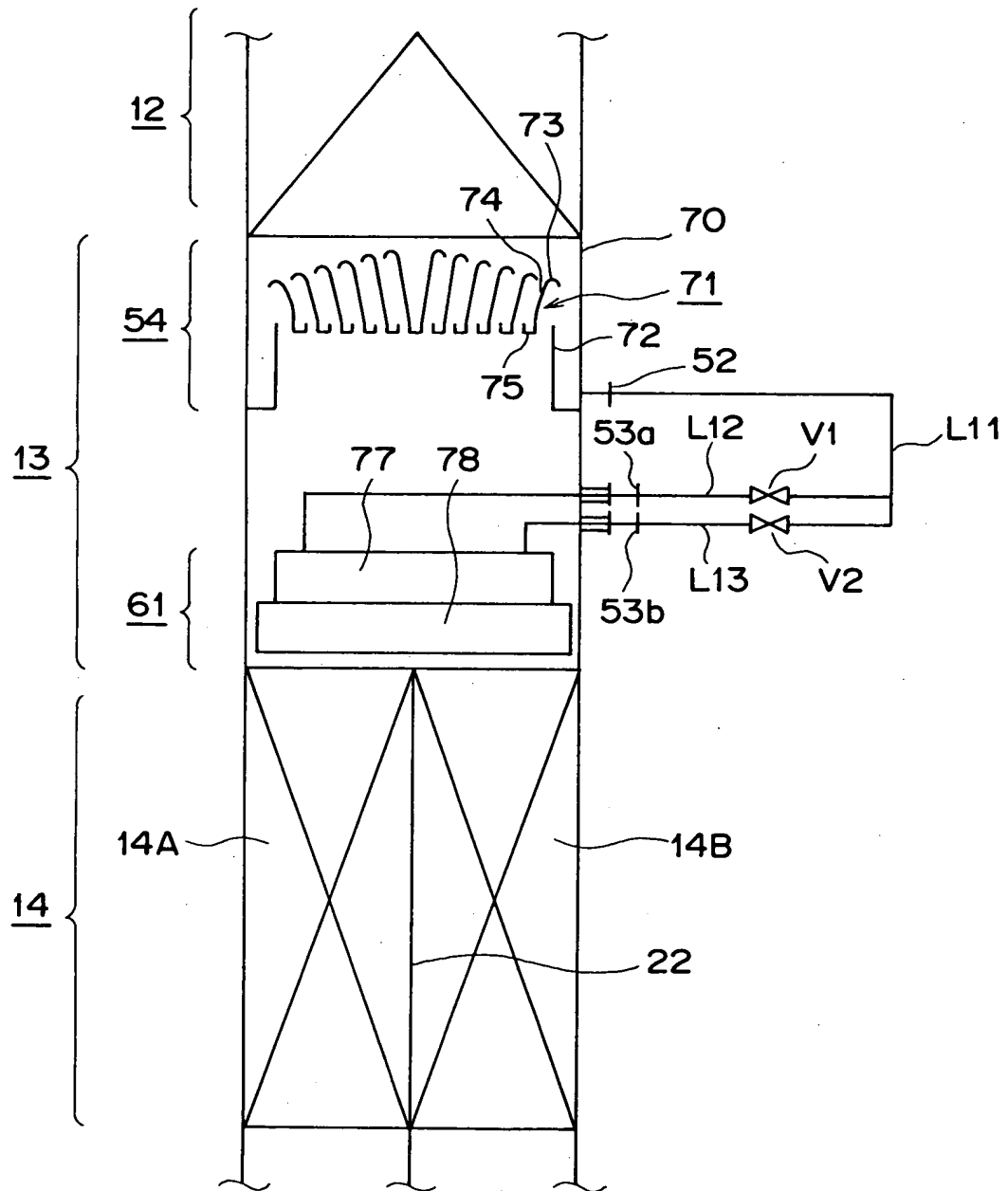


FIG. 4

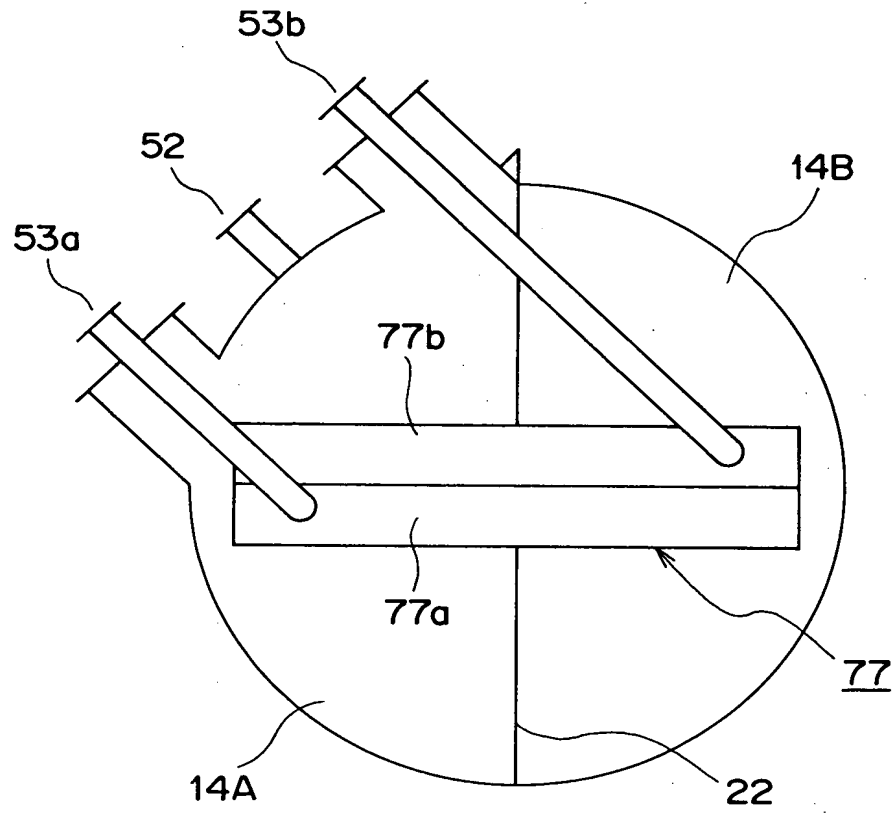


FIG. 5

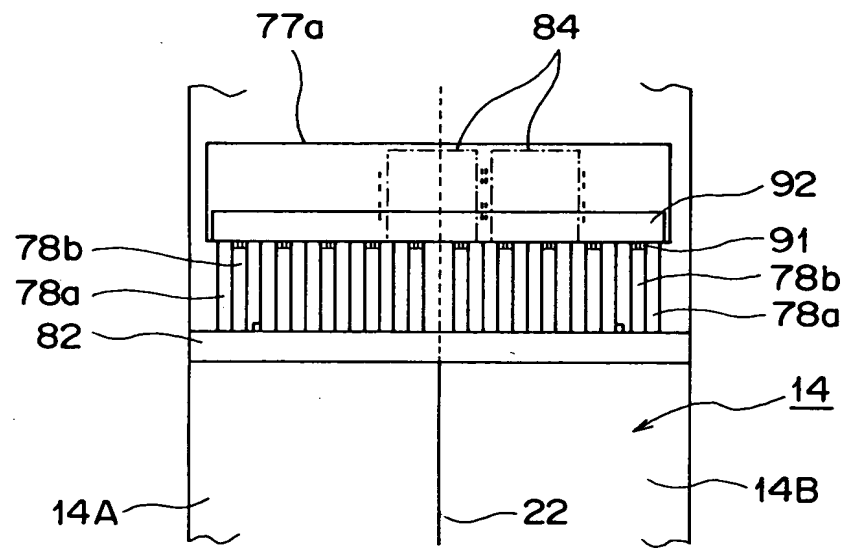


FIG. 6

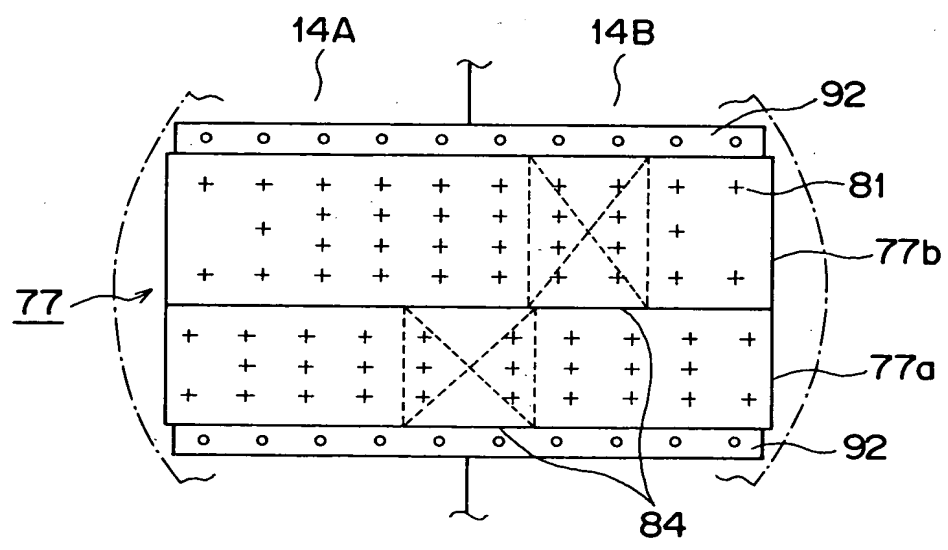


FIG. 7

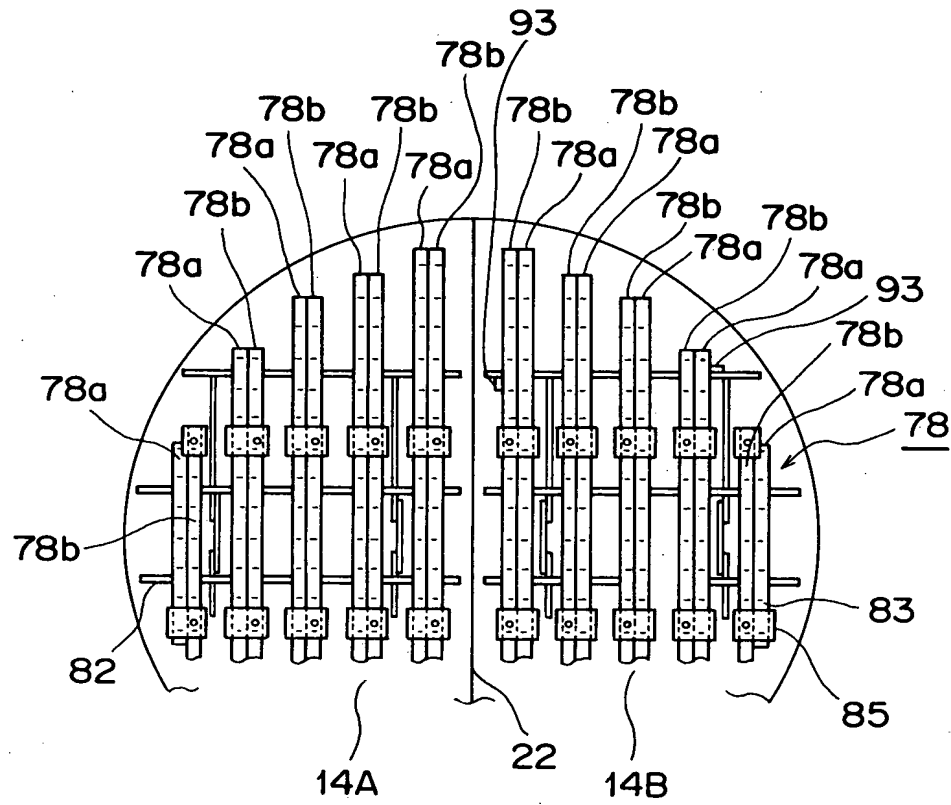


FIG. 8

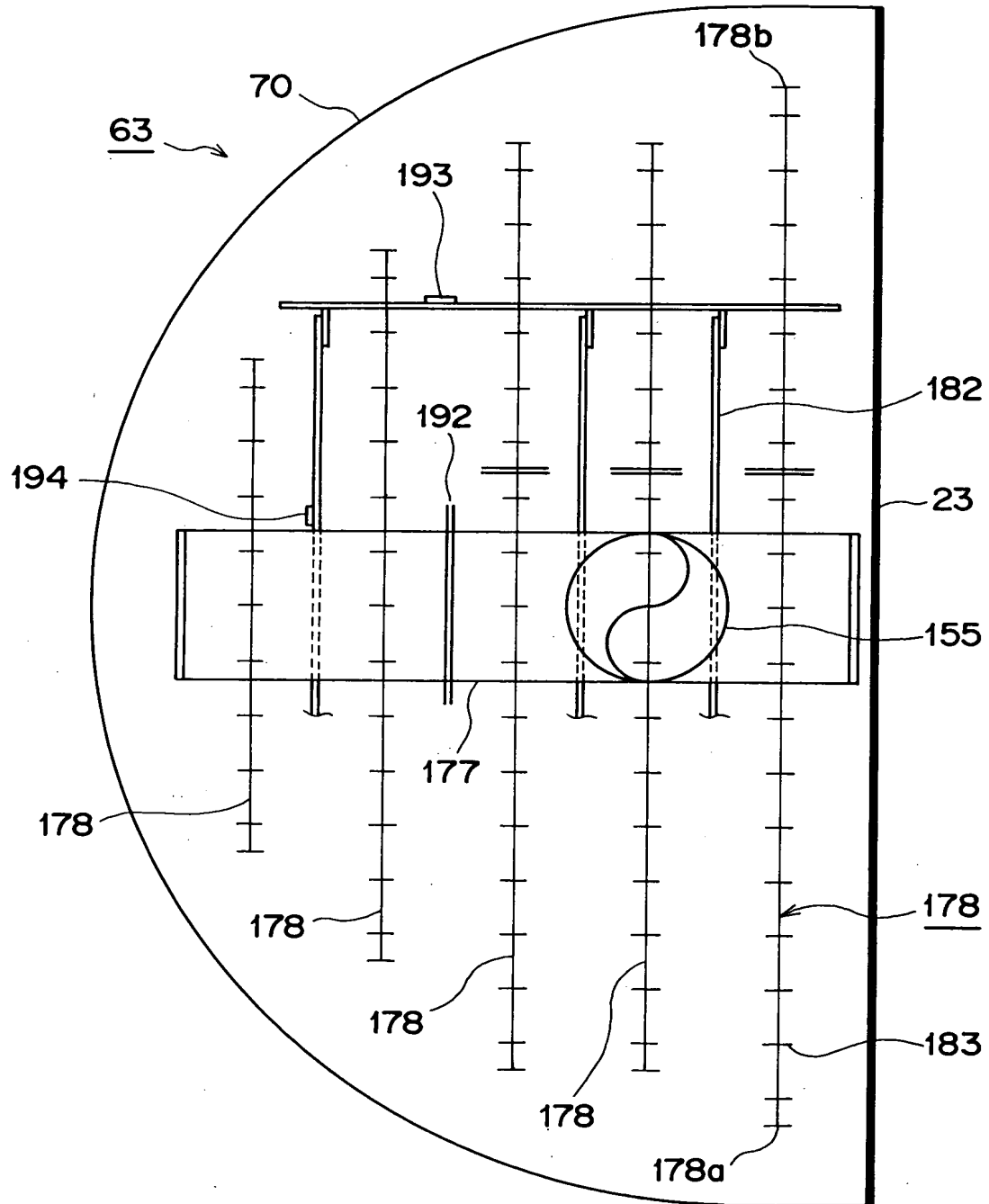


FIG. 9

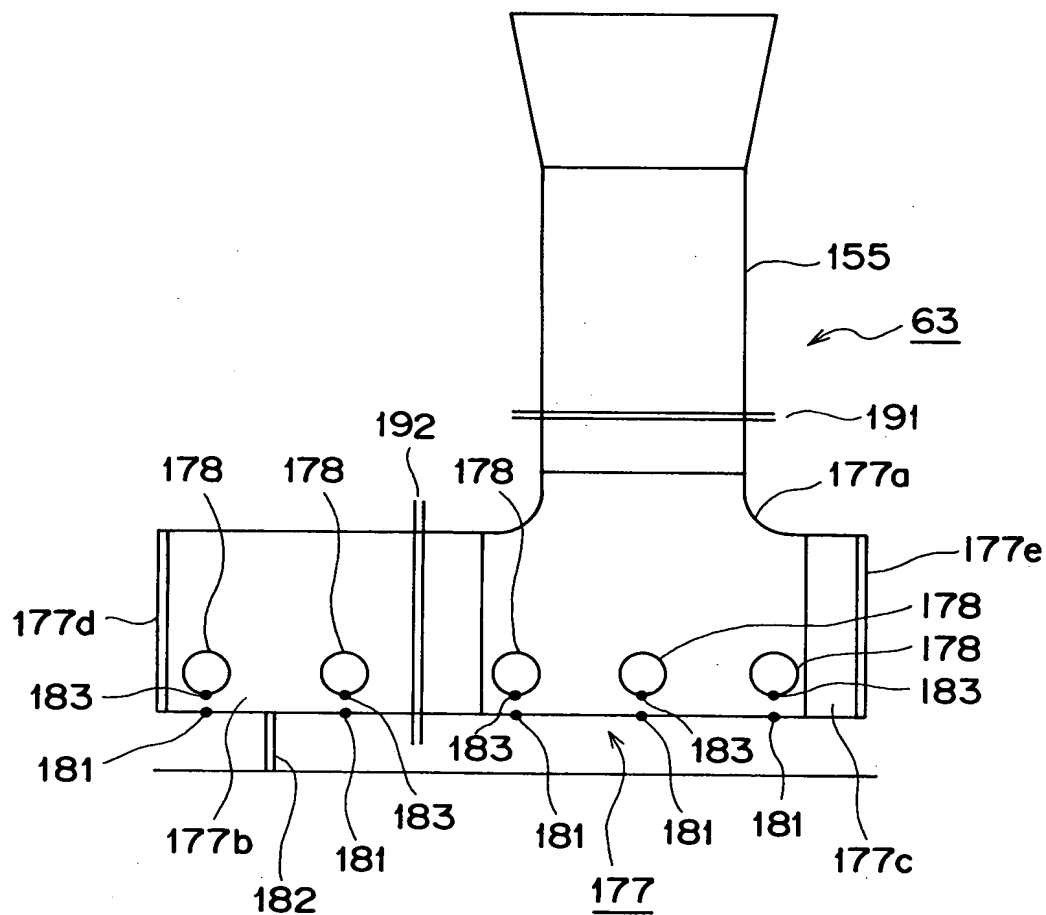


FIG. 10

(m³/m² hr)

		DESCENDING-LIQUID FLOW RATE					
		5	10	15	20	25	30
F FACTOR	0 . 5	0.144	0.144	0.144	0.144	0.144	0.144
	1 . 0	0.502	0.502	0.502	0.502	0.505	0.518
	1 . 5	1.041	1.041	1.135	1.284	1.504	1.831
	2 . 0	1.743	1.857	2.454	4.119	6.051	8.926
	2 . 5	2.632	3.233	5.233	10.919	28.306	53.064

FIG. 11

SECTION/ CHAMBER	FILLER	DESCENDING-LIQUID FLOW RATE	ASCENDING-VAPOR FLOW RATE	F FACTOR
12	A	7500	7600	1.18
14A	A	4500	7600	1.28
16A	A	9200	7700	1.2
14B	A	10500	7500	1.17
16B	A	6100	7500	1.17
18	B	7600	7600	1.18

FIG. 12

FILLER	f_i	ΔP_i	NTSM _i
A	1.17~1.28	0.5~0.6	5.5~5.6
B	1.18	0.5	3.6

FIG. 13

SECTION/ CHAMBER	FILLER	DESCENDING-LIQUID FLOW RATE	ASCENDING-VAPOR FLOW RATE	F FACTOR
12	C	4400	4600	2.87
14A	D	3400	4700	2.25
16A	D	10600	7800	3.39
14B	D	7800	6900	3.27
16B	D	4700	7100	3.03
18	C	6700	6700	2.73

FIG. 14

FILLER	f_i	ΔP_i	NTSM _i
C	2.73	4.5	2.2
C	2.87	4.5	2.2
D	2.25	0.8	2.2
D	2.73	0.8	2.2
D	3.03	3.0	2.0
D	3.27	4.0	2.0
D	3.39	4.5	2.0

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FIG. 15

SECTION / CHAMBER	FILLER	DESCENDING-LIQUID FLOW RATE	ASCENDING-VAPOR FLOW RATE	F FACTOR
12	C	4000	4300	2.7
14A	D	4100	4600	2.2
16A	D	10000	7000	3.2
14B	A	8000	7000	1.1
16B	A	6000	7000	1.1
18	B	7500	7500	1.18

FIG. 16

FILLER	f_i	ΔP_i	NTSM _i
C	2.7	2	2.6
D	2.2~3.2	0.7~3.5	2.2~2.0
A	1.1	0.45	6
B	1.18	0.5	3.6

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FIG. 17

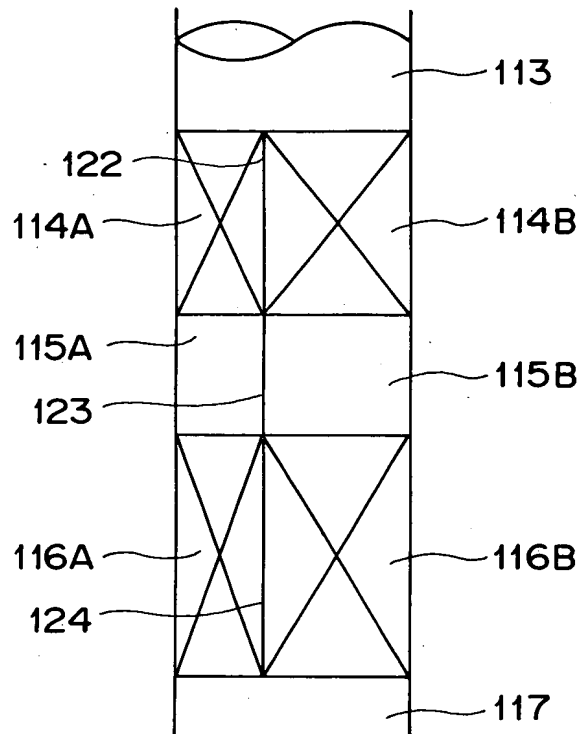


FIG. 18

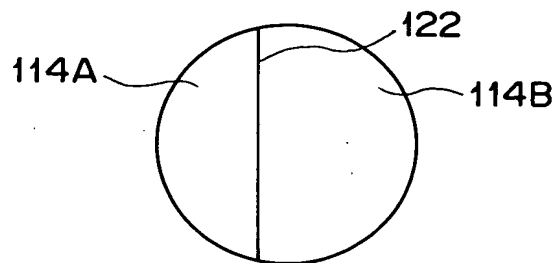


FIG. 19

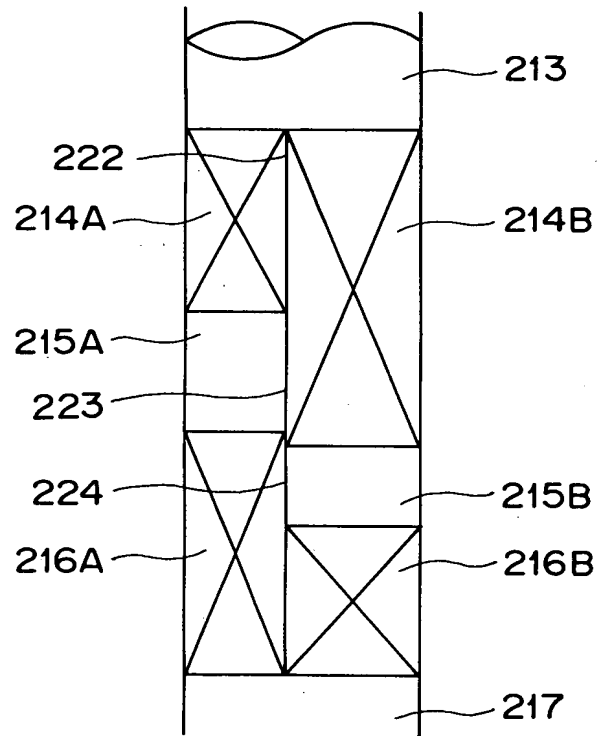


FIG. 20

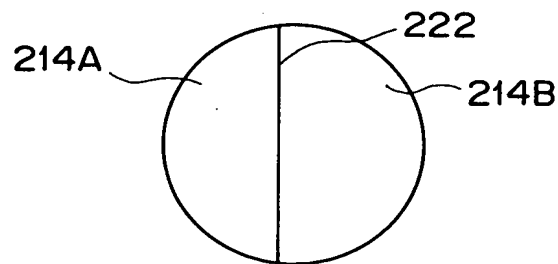


FIG. 21

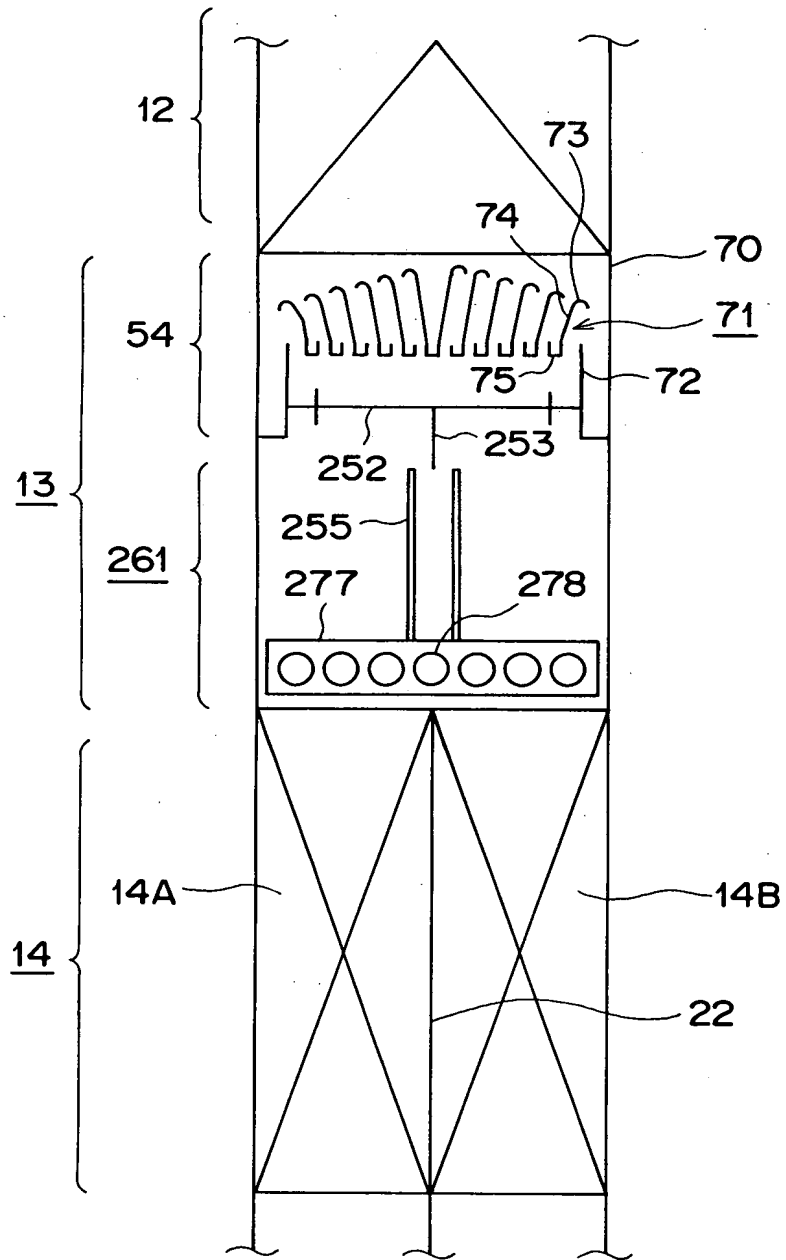
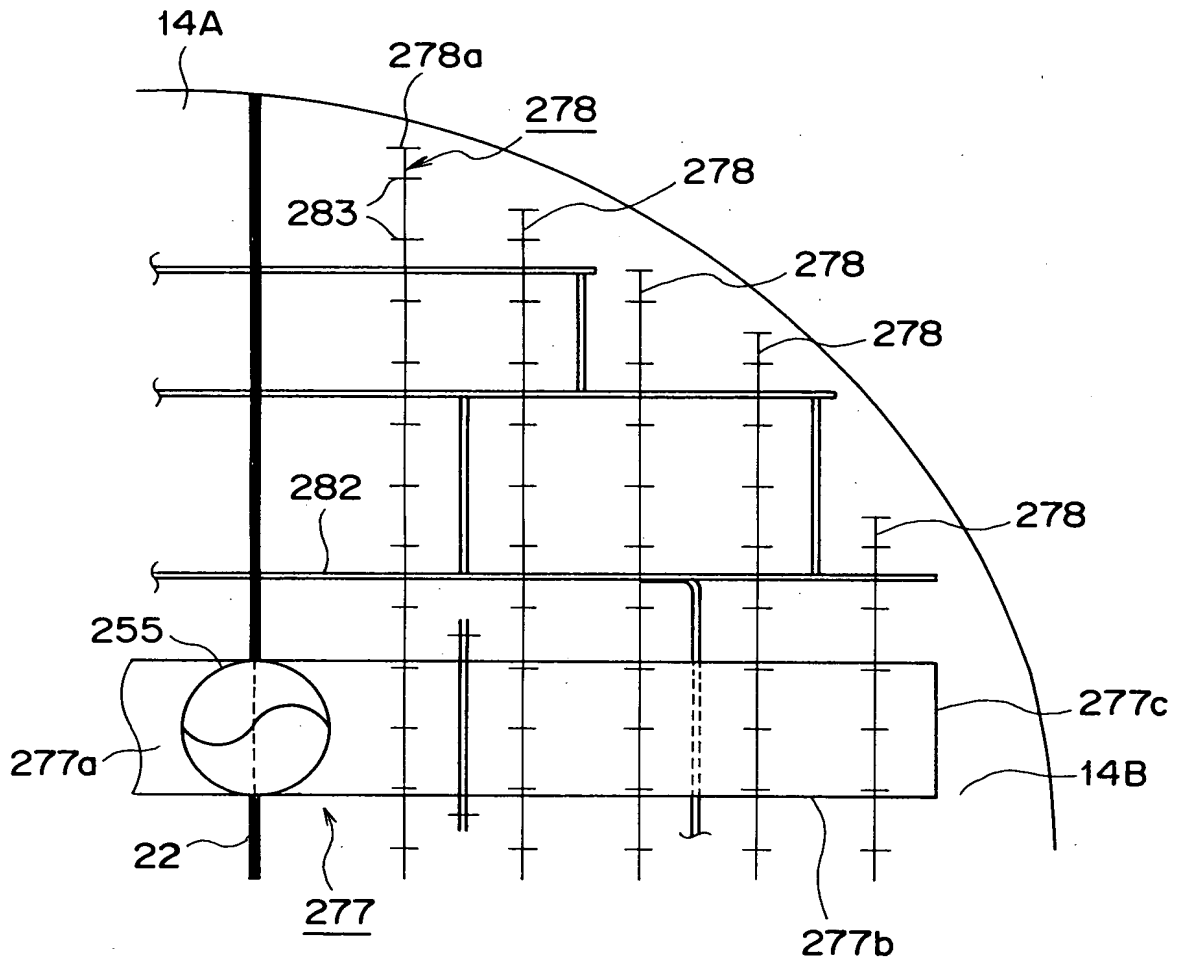


FIG. 22



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FIG. 23

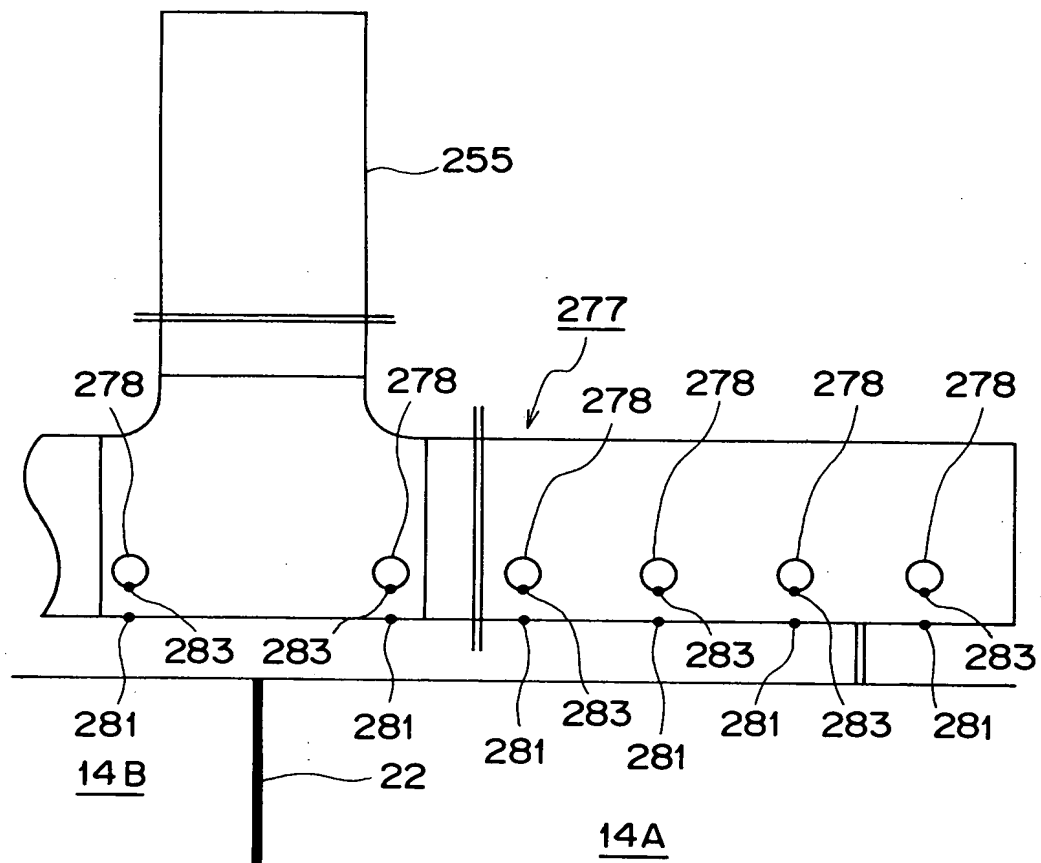


FIG. 24

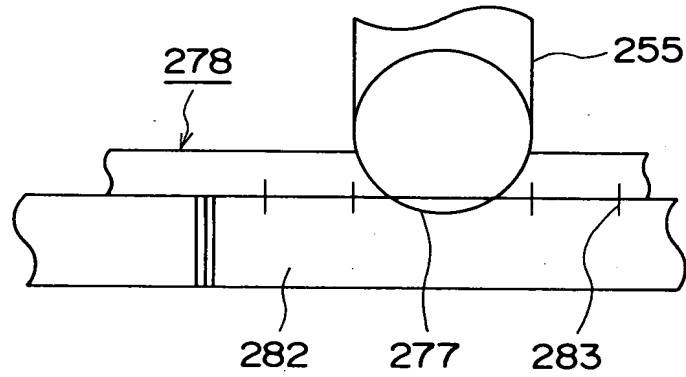


FIG. 25

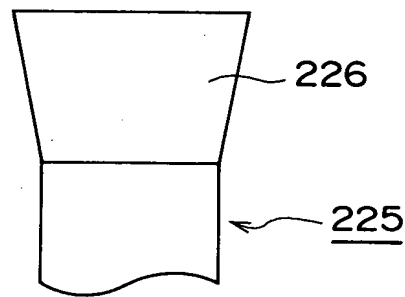


FIG. 26

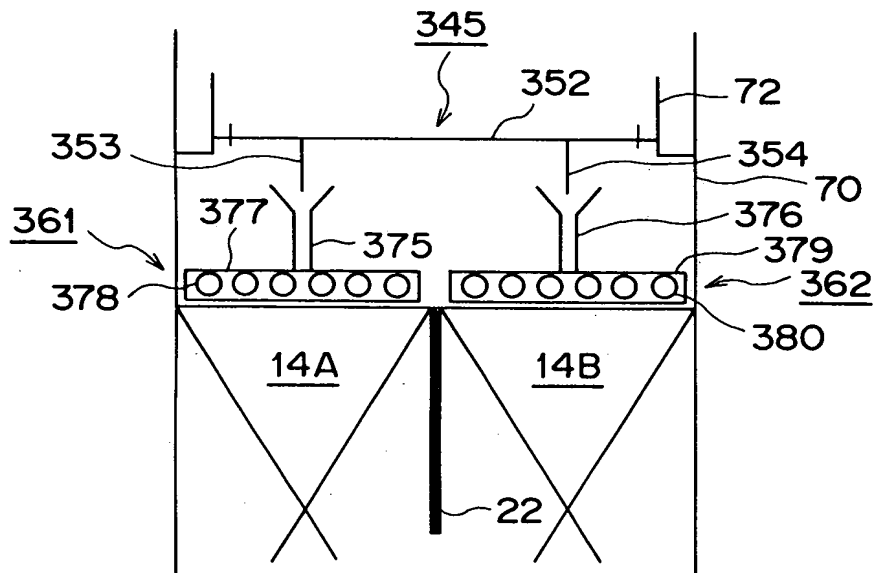


FIG. 27

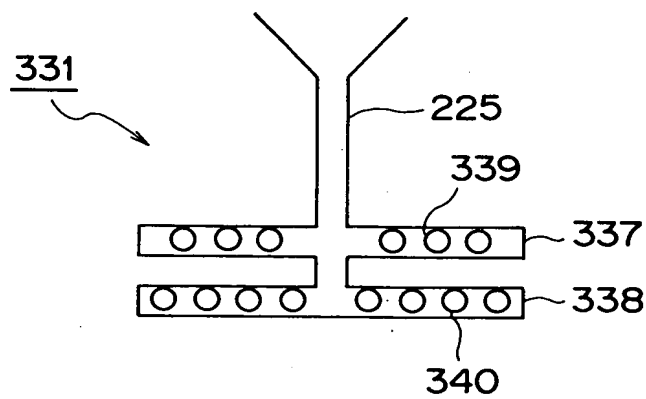


FIG. 28

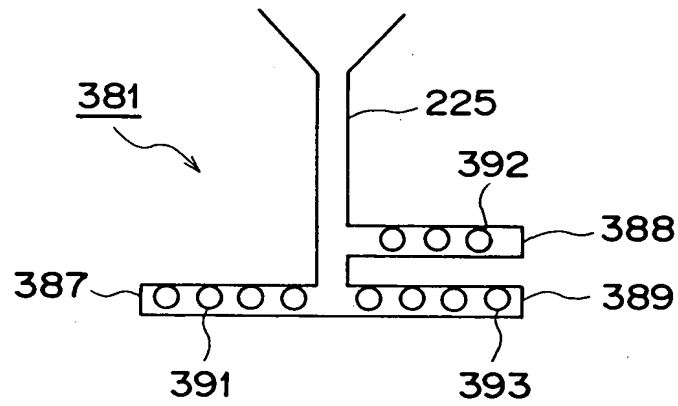


FIG. 29

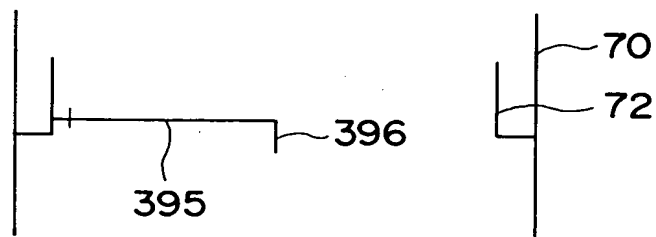


FIG. 30

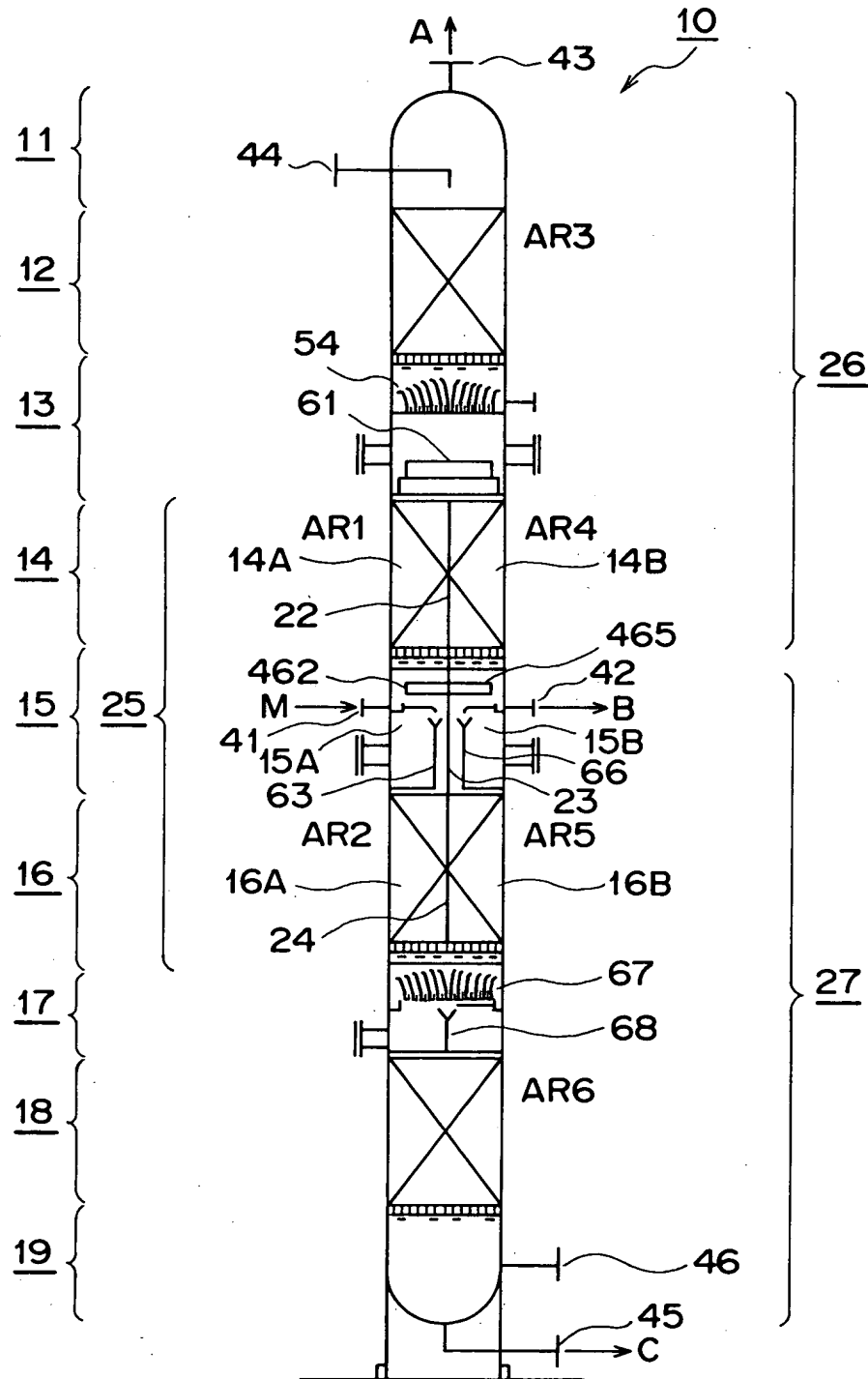


FIG. 31

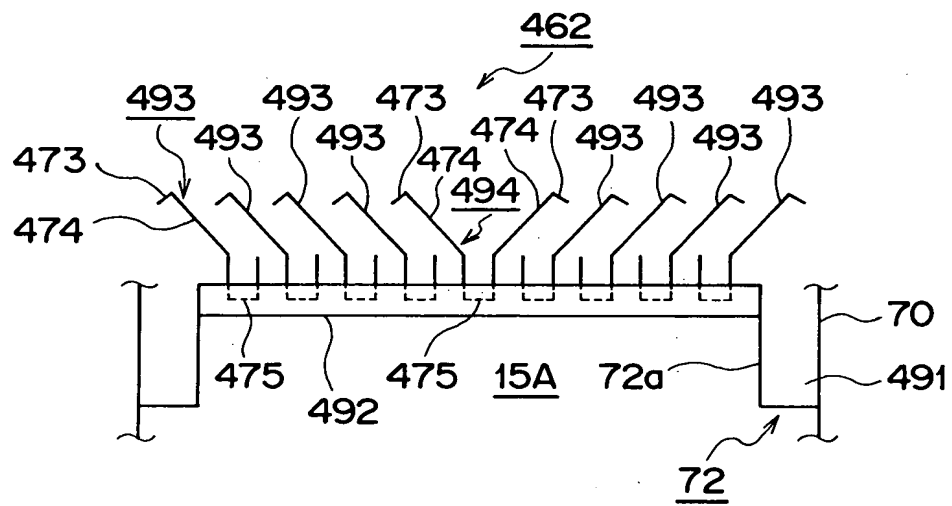


FIG. 32

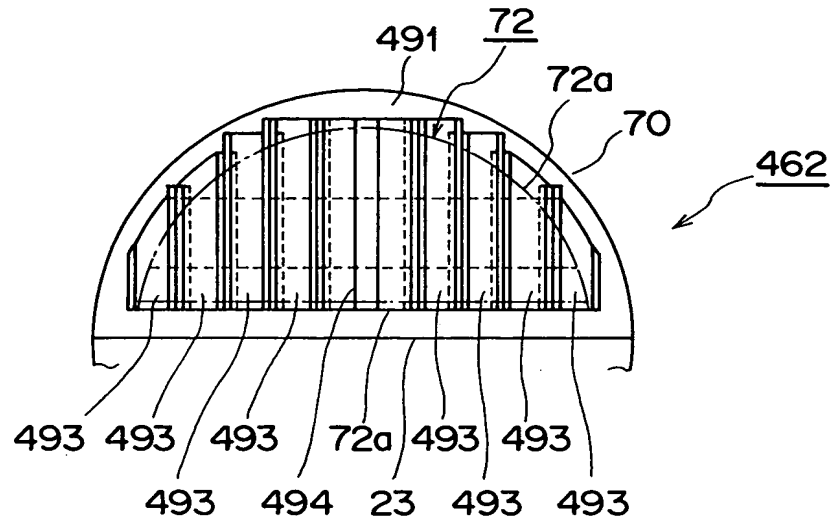


FIG. 33

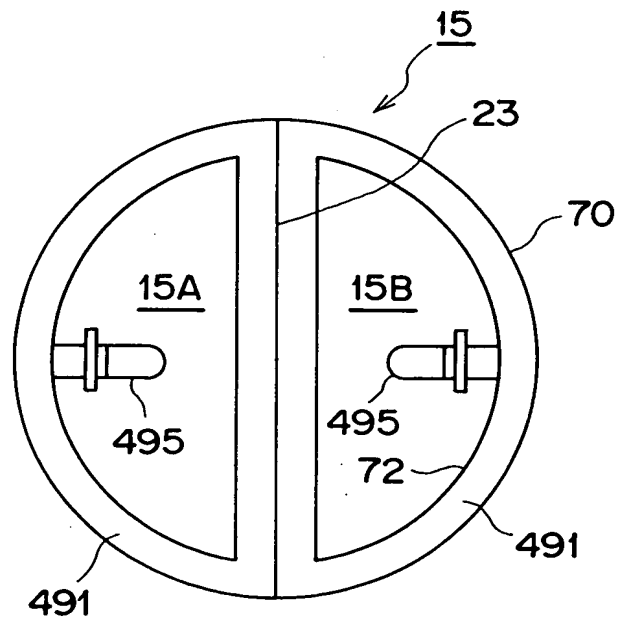


FIG. 34

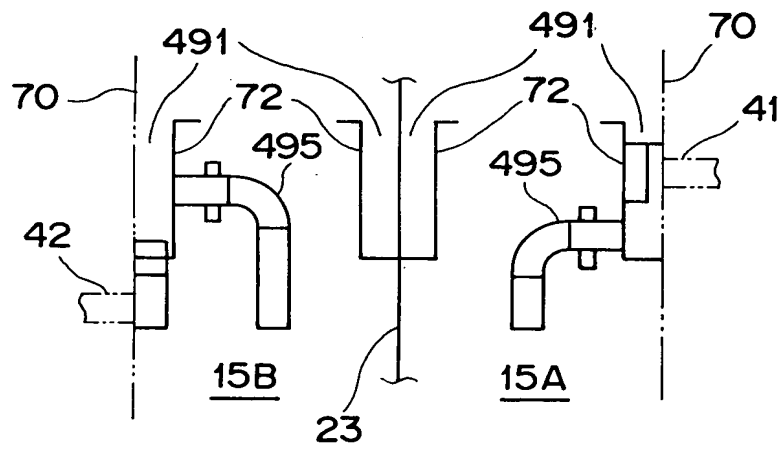
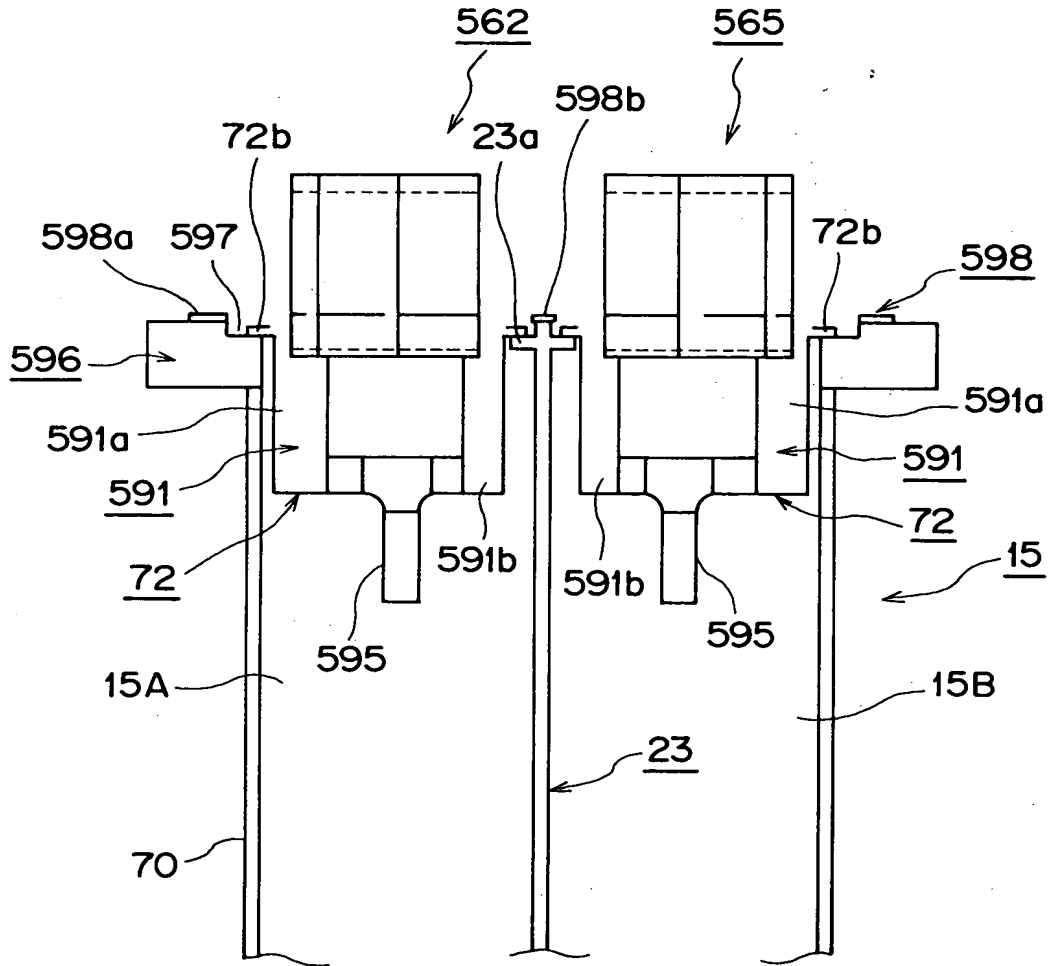


FIG. 35



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FIG. 36

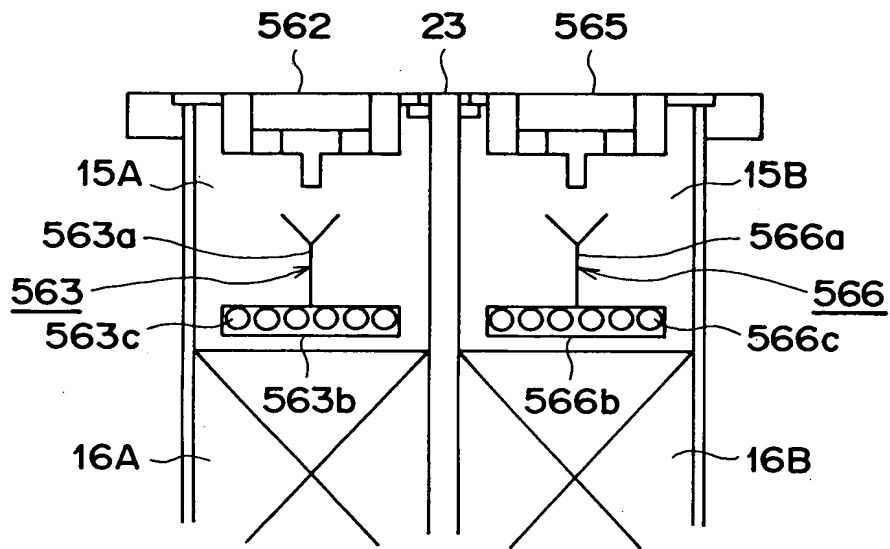


FIG. 37

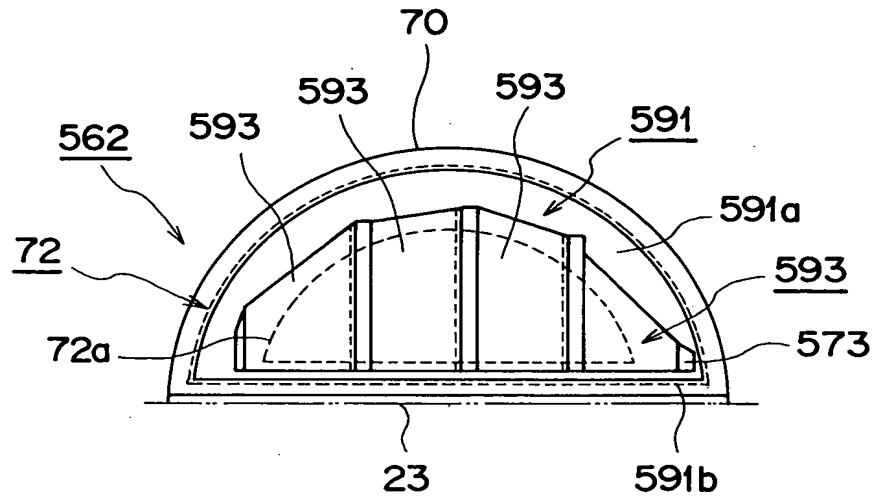


FIG. 38

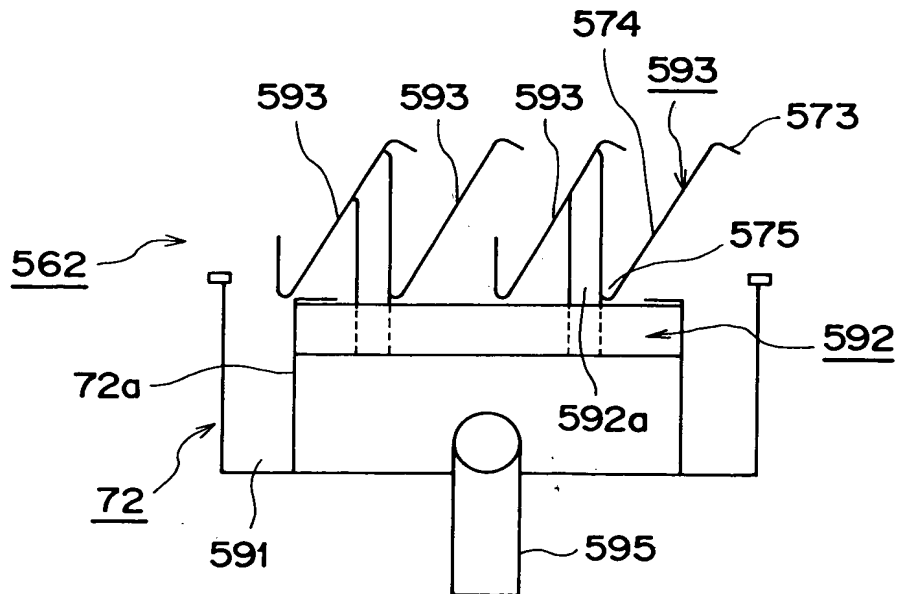


FIG. 5 is a schematic diagram of a circular structure 598. The structure consists of an outer ring 598a and an inner circular region 598b. The inner region 598b is divided into two equal halves by a vertical line.